Radiology is a routine diagnostic procedure in all fields of clinical veterinary practice, and exotic mammals' medicine is no exception. With the increasing interest and concurrent demand for a higher level of care of exotic companion mammals, it is of great importance for the evaluating clinician to be familiar with the normal radiographic patterns.

This talk provides a practical resource for veterinarians already seeing or wishing to add exotic small mammals to their clinical practice, and the techniques to help overcome difficulties related to the traits and anatomy of these species.

Oftentimes clinicians avoid immobilizing their patients, thus leading to suboptimal results. However, immobilization is usually required in order to obtain a diagnostic radiographic image. As many of these patients are prey species they are prone to develop stress-related behaviors when manually restrained. This, together with their existing disease, can greatly compromise their health resulting in an undesired outcome, as well as suboptimal positioning. Sedation or general gas anesthesia can help alleviate these concerns and allow for a better radiographic technique. Patients that are critical should not be immobilized and further testing should be postponed until they are medically stabilized.

Ideally, radiographs should be focal and the settings scaled to the tissues of main interest. However, whole-body radiographs are highly recommended as a basic screening test, especially in animals that are showing non-specific clinical signs. Taking at least two views (DV/VD and lateral) should be mandatory to allow identification and localization of the possible lesions. Further views (angles and focal) can be taken once lesions are identified.

Tips- examples:
Many exotic mammals are smaller in size and therefore require the use of a high definition equipment to generate an interpretive image.

Intubation is challenging but should be attempted when possible in order to inflate the lung lobes and allowing for better thoracic evaluation.

Human hands and objects should not appear in the taken image; taping the animal’s limbs to the radiographic plate allows for better viewing of all body organs.

Dorsoventral (DV) positioning is often easier than ventrodorsal (VD) and provides a similar image.

On the lateral views, the front limbs should always be retracted as far cranially as possible, to prevent superimposition of the cranial thorax.

Evaluating the cranial margin of the cardiac silhouette is almost always impossible in rabbits and rodents due to the persistent mediastinal fat or thymus in that region.

Subcutaneous fluids should ideally be postponed after the thoracic views were taken.

GI gas is expected in hind gut fermenters like rabbits and some rodents but is never normal in a ferret.

References: